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AMARYLLIDACEÆ.

HYPOXYS, L.—**H. erecta**, L.; common; N. Y.

HÆMODORACEÆ.

ALETRIS, L.—**A. farinosa**, L.; New York and New Jersey, *Torr. Cat.;* Closter, common, *Austin;* Keyport, *Brown;* Jamaica; Staten Island; Chatham, N. J., etc.

IRIDACEÆ.

IRIS, L.—**I. versicolar**, L.; common; N. Y.—**I. Virginica**, L.; Closter, common, *Austin;* Hackensack meadows; Long Island, *State Flora, Miller, Coles, Ruger.*

PARDANTHUS, Ker.—**P. Chinensis**, Ker.; Preakness, *Ficher;* between Jamaica and Middleville, S. S. R. R., L. I., *Ruger.*

SISYRINCHIUM, L.—**S. Bermudiana**, L.; common; N. Y.; with white flowers, S. S. R. R., near Jamaica, *Ruger.*

DIOSCOREACEÆ.

DIOSCOREA, Plumier.—**D. villosa**, L.,; common; N. Y.

8. **Trees and Rain.**—[In Vol. III, No. 8, was a short but very interesting account of the desiccation of the Island of Santa Cruz, W. I. Mr. Merriam, the writer, has kindly sent us the following communication from the friend who was his authority for the facts. The story of the Lake of Valentia is not new but very apposite, and on account of the importance of the subject, may claim repetition even in our limited space.]

Your brief published statement concerning the diminution in the rainfall of the Island of Santa Cruz is in the main correct, save that it gives the idea of a more rapid change than has probably taken place. At my former visit, twenty-seven years ago, the desiccation had undoubtedly made some progress, but it had not been sufficient to make itself manifest in a very marked degree.

The change from fertility to barrenness, which at first must have been almost imperceptible, is no doubt taking place in an accelerating ratio. Every new plantation swallowed up by the onward march of desolation, augments the cause, and renders the arrest of the evil more and more hopeless. This movement is from the East, (the windward end of the island,) towards the West, and is now quite conspicuous. Every few years an estate, formerly green with cane fields, becoming incapable of producing further crops, has to be abandoned to the graziers, whose cattle find a meagre pasture upon it a few seasons longer. These are in turn driven off, and the land is entirely given up. Henceforward it becomes, if not quite a desert, at least a barren waste, producing only a sparse and prickly vegetation, over which a few arborescent cacti reign supreme. A narrow belt of green lines the sea shore of this region, consisting of cocoa-nut palms, the poisonous Manchineel, the sea side grape, and a few shrubs, whose natural habitat is along the high water mark; but, inland, cultivation is impossible without constant irrigation. As there are no streams upon the island, with the exception of a few rills chiefly near the western end, and the wells are failing, no means remain to force life from the unwilling soil. Some attempts were at one time made to arrest this insidious advance, but too late to be effectual. A planter, I was told, not long since set out a thousand trees upon his estate, and lost every one. It is probable that had this remedy been universally adopted in time, there might be a more hopeful future for Santa Cruz. But the final depopulation of this beautiful island, seems now to be written indelibly among the decrees of fate.

St. Thomas, an island lying thirty miles distant, is similarly affected. This island, however, being loftier, and having scarcely any level land, seems to attract to itself a rather more liberal amount of moisture from the clouds.

About fifty miles westward of these islands, and in the same parallel, lies the large island of Porto Rico. The land here is almost wholly mountainous, the eastern ridges rising to three thousand feet. A large portion of the interior is still covered with primitive forest, a tangled tropical vegetation of vivid perennial verdure. The rainfall is abundant, and the soil yields bountiful crops of coffee and sugar, with a great variety of fruits.

The contrast between neighbouring islands so similarly situated is most striking. The sad change which has befallen the smaller ones is, without any doubt, to be ascribed to human agency alone. It is recorded of these, that in former times they were clothed with dense forests, and their oldest inhabitants remember when the rains were abundant, and the hills, and all uncultivated places, were shaded by extensive groves. The removal of the trees was certainly the cause of the present evil. The opening of the soil to the vertical sun, rapidly dries up the moisture, and prevents the rain from sinking to the roots of plants. The rainy seasons in these climates are not continuous cloudy days, but successions of sudden showers, with the sun shining hot in the intervals. Without shade upon the surface the water is rapidly exhaled, and springs and streams diminish. There is also, as many believe, an electrical action produced by the points of leaves upon the atmosphere, compelling it to yield up its moisture. However feeble may be this effect from a single tree, the myriad spears of a whole forest presented to the sky, undoubtedly do exert a marked and powerful influence. It is probably from such a combined action that the drying up of the soil from the removal of the trees,—destroying the balance of nature,—goes on with ever increasing rapidity.

An equally marked example of the effect we are considering, is seen in the small island of Curaçoa, lying in latitude 12° N., sixty miles from the coast of Venezuela. I visited this island in the year 1845, and found an almost perfect desert, where, according to the testimony of the inhabitants, had once been a garden of fertility. Abandoned plantations, the recent ruins of beautiful villas and terraced gardens, and broad arid wastes without a blade of grass, shewed how sudden and complete a destruction had fallen upon this unfortunate little island. The cause was the cutting down the trees for the export of their valuable timber. The effect followed even more rapidly than at Santa Cruz, as the island lies five degrees farther to the South, and the heat is more intense. The rains have almost entirely ceased, and fresh water is among the luxuries. Almost within sight of Curaçoa is the coast of the Spanish Main, covered with the rankest vegetation, over which the burdened clouds shower down abundant blessings.

Still another example of the connection of such cause and effect is furnished in this same tropical regions. It is further interesting as a curious instance of the influence of *political* changes upon climate. Sir Charles Lyell, describing the Lake of Valentia in Venezuela, a broad sheet of water surrounded by a wide belt of cultivation, tells us that the *level of the lake* has fluctuated with the varying fortunes of this unhappy Spanish republic. From time to time a fierce revolution, more devastating than tropical storm, has swept over the land. In these cruel wars among brethren nothing was spared. The inhabitants were slaughtered and the land laid waste. In this burning region, on the line of the maximum temperature of the globe, nature quickly resumed her supremacy over the works of man. A riotous vegetation sprung up on every side. Tilled fields reverted to forest. The streams augmented, and the *level of the lake was raised.* Then came an interval of peace. The land was inhabited once more; the forests were removed, the streams dried, and the lake sank to its former level. Several such tides in the waters and in the affairs of men, are recorded, furnishing convincing proof, if proof is needed, of the intimate relation of atmospheric moisture to vegetable life. Humboldt, in his personal narrative, relates his visit to the lake of Valentia, and his measurement of its changes of level and coast line.

In view of these facts, what are we to expect in our own country, but the like results, less rapid perhaps, but none the less sure, from the unrelenting warfare which is carried on against our ancient forests? The thought may well startle us. How shall we arrest so fearful a fate?
FRED. HUBBARD.

Jas. S. Merriam, Esq. *New York, Jan.* 2, 1873.

9. **Mistletoe.**—In England at present, as is well-known, the mistletoe is rarely, or almost never found growing upon the oak. Indeed, I have read in some recent authority that only three oak-trees are known in all Great Britain with mistletoe upon them.

Being in England last Christmas day, and observing the mistletoe everywhere conspicuous, in company with the holly, ivy and laurel, I made inquiry, wherever I could get a chance, as to whence the supply was obtained. Some knew only that just before Christmas day, at the markets, one could get a bunch of mistletoe, holly and ivy to hung in the window, for "tuppence" or more, according to quantity and quality. I saw few people who had seen it growing; and those had only seen it upon crab-trees or old apple-trees, never upon an oak; and hardly any would believe that it could grow on an oak. Nor had they ever seen it except in the west of England. Generally, they thought that it grew only in England. At a wholesale stand in a market in Liverpool, the day after Christmas, I saw a very large bunch on a piece of an apple-tree limb, the branches of mistletoe being as much as four feet long, and the thickest part of